



FACULTÉ DE MÉDECINE ET DE PHARMACIE

115, Boulevard de Waterloo

Brussels, February 21st 1955

Service : Dr. Roger LINZ  
Laboratoire de bactériologie

Dear Dr. Ledeberg,

To-day I send you some of the reprints you request  
As for your questions:

1) Do I know of any situations in bacteria analogous to the "mother-daughter" cell differentiation in tubercle bacilli? - No. But until now, I have examined tubercle bacilli only with the electron microscope. However, I showed that staphylococci and colibacilli also divide and lyse in the presence of inhibiting concentrations of streptomycin.

2) Have I further evidence of this ("mother-daughter" cell differentiation) observation? - No.

3) How many divisions does the "mother cell" undergo in the presence of the streptomycin? - If the concentration of streptomycin is much higher than the minimum bacteriostatic concentration, the cells seem to divide once only, since their number exactly doubles; then they stop dividing and  $\frac{1}{2}$  half of the cells show signs of lysis (which half? mother cells? daughter cells?). If the concentration of streptomycin is lower, but still inhibitory, the cells divide once, and then half of them divide a second time: but which half? the "mother cells" or the "daughter cells"? I cannot decide at present. Half of the cells again show signs of lysis. - After longer incubation with either concentration of streptomycin, intact cells also begin to lyse.

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Of course, it is unnecessary to stress that the distinction between "mother" and "daughter" cells is just a hypothesis: my observations fit in with it (differences in morphology of cells attached one to the other in pairs seeming to result from a second division). Can you think of another explanation?

Yours sincerely,

Dr. Roger Linz